U.S.-China Workshop for Advanced Technology of Industrial Boilers

美中工业锅炉先进技术专题讨论会

Increasing Energy Efficiency, Reducing Pollution & Greenhouse Gases

Call for Papers and Participation

高效率　　减少污染

June 10-11, 2004 • 2 day workshop in Beijing, China

June 12-18, 2004 • Study Tour in Beijing, Shanghai, Hangzhou and Wuxi

Sponsored by U.S. EPA and China National Development and Reform Commission. Organized by Chinese Society of Power Engineering, Tsinghua University, U.S. National Energy Technology Laboratory, and U.S. National Renewable Energy Laboratory

Workshop Overview

With over 500,000 boilers representing nearly 860,000 MWt with new boiler manufacturing growth at 6% per year, China produces and uses more industrial boilers than any other country in the world. While natural gas markets are developing along with biomass/waste fuels, industrial boilers consume over 400 million tonnes/yr of coal, discharging 750 million tonnes/yr CO_2, 6.3 million tonnes/yr SO_2, and 6 million tonnes/yr particulates. Much of the current fleet relies on outdated equipment and low-grade raw coal, resulting in efficiencies well below (10-20%) modern designs.

Fortunately, due to key changes in environmental policies and increased investment, progress is being made to introduce and commercialize technologies to improve the energy efficiency and performance of industrial boilers in China. Independent studies show considerable promise to further spur this vast market for low-cost greenhouse gas reductions, while dramatically reducing acid rain, fine particulate, mercury, and air toxics pollution to significantly improve ambient air quality and public health.

In addition, pollution control and energy cost savings technologies for the industrial boiler market provides segue for energy service companies, related energy/environmental work with other industries, and China's vast utility power market.

The 2004 Workshop will:

- ☑ Provide an update on the current status and future markets for industrial boilers, pollution control, emerging heat and power applications, energy management, coal preparation and developments with other fuels (natural gas, biomass), and other related services/technologies;
- ☑ Allow an open forum to highlight the results of recently completed demonstration projects;
- ☑ Identify future needs and facilitate "win-win" collaborations among U.S. and Chinese organizations in research, development, licensing, and commercialization of new technologies;
- ☑ Publish bilingual book of proceedings in both English and Chinese;
- ☑ Include a focused study tour of various boiler manufacturers, industry firms, and other organizations to further enable cooperation and business development.

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EPA　NREL　清華大学　NETL

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Who Should Attend 谁应该出席

The workshop will bring together organizations involved with the development and manufacture of industrial boilers, related equipment, instrumentation, and process controls as well as "boiler owner" organizations that operate boiler plants and seek to purchase new boilers and equipment with a significant interest in reducing energy costs while addressing efficiency, environmental, worker safety, and other benefits.

The workshop will enable manufacturing firms, fuel suppliers, and technology developers to interact with a wide range of boiler owners representing light commercial, heavy industry manufacturing (chemical plants, food plants, and large factories), university, municipal, and other organizations with space, district heating, process steam, or cogeneration requirements. In this way, potential buyers and sellers may convene to discuss technology status and the results of recently completed pilot and demonstration projects. Workshop attendees will also include organizations with environmental/regulatory, business development, capacity building, and marketing expertise so that the status of industrial boilers and related issues may be thoroughly discussed in promoting new affordable technologies to significantly reduce pollution and greenhouse gases while outlining future recommendations.

Paper Presentation & Workshop Discussion Topics 文章和讨论主题

- Combustion & Emissions Control for Stoker Boilers, Circulating Fluid Bed (CFB), Pulverized Coal, and Other Industrial-Scale Furnaces
- Coal Cleaning Technologies, Fine Coal Utilization, Briquetting, Biomass/Coal/Waste Composite Fuels
- Cofiring of Biomass, Natural Gas, & Other Fuels in Coal-Fired (e.g., Stoker, CFB) Boilers
- Low-Cost Retrofits and Upgrades (Common Sense Modifications) of Existing Boilers
- New, High-Efficiency Boilers for Coal, Biomass, Waste Fuels
- Natural Gas Packaged Boilers
- Industrial-Scale Gasification
- Gas Turbines and Emerging Technologies (Fuel Cells, Micro-turbines) for Industrial Applications
- District Heating, Cogeneration, Combined Heat and Power (CHP) Technologies
- Advanced Instrumentation & Process Control Software
- Energy Service Companies - And Other Concepts On How Boiler Cost & Energy Savings Can Fit Into the Overall Energy Management of Buildings/Factories
- Training Programs for Boiler Operators – Improving Efficiency & Combustion Safety
- Standards
- Education and Outreach – Addressing Public Acceptance
- Case Studies & Issues in Management, Technology, Licensing, Joint Ventures, Financing

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Guidelines for Abstracts 摘要规则

Technical papers will be selected based on your abstract, after review by a team from China and the U.S. We encourage you to submit abstracts for innovative technologies and concepts that increase efficiency, reduce emissions, lower cost, and provide other benefits. Papers are sought to address technologies and markets applicable for pollution controls and efficiency/operations enhancements for existing boilers, as well as those targeting new boiler designs, manufacturing, installations, along with emerging concepts for providing heat, process steam, or electricity in commercial or industrial settings. All selected technical papers will be published in a bilingual book shortly before the workshop.

DEADLINES

Abstracts Due:	April 27, 2004
Acceptance Notification:	May 3, 2004
Full Papers Due:	May 28, 2004

SUBMISSION INSTRUCTIONS

Submit the 100-500 word abstract with the proposed paper title along with the names, affiliations, and contact information of all authors. Mail, fax, or email abstracts by April 27 to:

National Energy Technology Laboratory
Attention: Mark Freeman
626 Cochrans Mill Road, PO Box 10940
Pittsburgh, PA 15236-0940
Tel: (412) 386-6094 Fax: (412) 386-6004 Email: mfreeman@netl.doe.gov

Study Tour – Visits to Industrial Boiler Plants 参观工业锅炉厂

Following the workshop, a targeted study tour will be offered to facilitate meetings and site visits with leading organizations. Site tours would include industrial boiler manufacturers as well as operating boiler plants with a range of technologies (stoker-fired and CFB, biomass, natural gas) in various settings, including universities, light commercial, manufacturing, etc. relative to cogeneration, space heating and process steam, and district heating applications.

The study tour agenda will be finalized based on the targeted needs and requests made by participants in an attempt to provide complementary and solid follow-up opportunities for collaboration and potential business development to build upon the workshop results. At this time, site visits are envisioned to the Hui Ro Chu District Heating Company (Beijing), which is inviting companies to demonstrate equipment, advanced instrumentation, and novel concepts to conduct pilot projects to make systemic improvements, verify efficiency gains, and create markets that could be a model for other boiler houses and district heating companies. In addition, site visits to boiler manufacturing firms are planned, such as Wuxi Hua Guang Boiler Corporation, Hangzhou Boiler Works, and Shanghai Sifang Boiler Works.

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